

## Black History Month: Remembering a pioneer in medicine: Dr. Charles Richard Drew

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Every day, blood transfusions are performed worldwide for patients in need of blood products. They are so routine nowadays that we do not give much thought to the pioneering scientists who made these modern blood transfusions possible; this was not always the case.

One of the scientists who made modern transfusions possible was Dr. Charles Richard Drew (1904 - 1950). Born in Washington DC to a carpet layer and schoolteacher, young Charles Drew was a high school athlete and was also very bright. He was able to obtain a partial scholarship to Amherst College in Massachusetts where he again excelled at sports. However, at a track meet at Brown University in Rhode Island, he and three other black athletes on the Amherst team were not allowed to eat alongside the white athletes in the hotel where they were all housed. Drew never forgot this incident.

After college, he did not have enough money for medical school, so he taught biology and worked as an athletic director at Morgan State College. Eventually he was accepted to McGill University Medical School in Canada where he came under the influence of John Beattie, a British doctor who was interested in the problems of blood transfusions. Drew found Canada very welcoming to African Americans; he excelled both academically and again in sports, leading McGill to several national track championships and graduating near the top of his class. He ultimately became an intern at Montreal General Hospital where he focused clinically in the areas of surgery and emergency room medicine; in the 1930s in the United States, African Americans could only do internships at black hospitals.

While Drew was in medical school, the Nobel prize was awarded to Karl Landsteiner who determined that all persons have one of four different types of blood: A, B, AB and O. Even with this discovery, blood preservation and storage were issues. Even if the right blood type could be found for a patient, by the time the blood typing was done often the blood could no longer be used. The blood would spoil by forming clots. He and Dr. Beattie worked on the blood preservation problem in Canada, and then Drew



Dr. Charles Richard Drew (Image credit: Associated Photographic Services, Inc - National Library of Medicine)

obtained a research fellowship to train at Columbia Medical School in New York City. There, he not only worked on the problem of blood preservation but he also obtained an Sc.D. (Doctor of Science) degree, the first granted to an African American in the United States, and was certified as a surgeon. He became an authority on solving all the technical problems of collecting blood in “blood banks.”

In 1942, he patented a device that improved the process of preserving blood; he also discovered that if the blood that was collected from donations was stored in the form of plasma, it could be kept refrigerated for extended periods of time. This discovery became crucial as World War II broke out and more and more blood products were required to keep injured soldiers alive and treat shock from blood loss. At the request of his mentor, Dr. Beattie, who was serving in England as that country was being attacked, the American Red Cross put Drew in charge of a nationwide program to collect and dispatch blood products, particularly plasma, from the United States to Europe. He standardized procedures at all participating hospitals for collecting and processing blood products to avoid contamination.

However, as the project became successful from a technical standpoint, the armed services informed the American Red Cross that “colored” blood would not be acceptable. This resulted in many who protested this policy, but the armed services initial solution was to allow African American blood to be collected but it would be segregated. Drew resigned. A Newspaper headline at the time said: “Negro surgeon, World Plasma Expert, Derides Red Cross Blood Segregation” and printed the following:

“No Negro blood accepted but- When terrible blitz raids of London in September 1940 killed and wounded thousands and an emergency call went out to America for dried blood for transfusions, it was an American Negro surgeon to whom English medical men appealed to organize and send U.S blood plasma overseas.”

Drew was quoted at the time in a newspaper to say: “The question arises- is there a difference between blood of different races? Is it possible to transmit the traits and characteristics of one race to a member of another race by means of blood transfusion?... One can say without hesitation that no difficulties have been shown to exist between the bloods of different races which would in any way counter-medicate the use of the blood from one individual of one race to an individual of another race for the purpose of transfusion providing the bloods were of the same group. There are many who have a real fear born of ignorance that the blood of a Negro carries with it the possibility of their offspring having dark skin and other characteristics of the Negro race. Only extensive education, continued wise government and an increasing fight on our part to disseminate the scientific facts and raise our levels of achievement can overcome this prejudice which to a large extent is founded on ignorance.”

Eventually the armed services and the American Red Cross cancelled the policy. But the experience discouraged Drew and he ultimately returned to full time surgical practice. After the war, Drew practiced and taught at Howard University where he trained many black surgeons. He also continued to fight for equal treatment in the field of medicine for African Americans. He fought the American Medical Association policy to not accept African Americans into that society and he created a separate group, the National Medical Association to which most black physicians eventually joined. The AMA never allowed black people to enter during Drew's lifetime.



Today, Dr. Drew is universally deemed the “Father of the Blood Bank.” (Image credit: National Portrait Gallery, Smithsonian Institution; gift of the Harmon Foundation)

Charles Richard Drew unfortunately had an early and untimely death. He was invited to attend a medical conference at the Tuskegee Institute in Alabama. He took three young black surgical residents as he wanted to experience the conference, but the residents could not afford the train fare so Drew drove them in his car. Driving late at night, Drew's car veered off the road and crashed. Drew was killed but fortunately the three residents were unharmed. So, the next time you see or hear about a patient getting a blood transfusion, think of Dr. Charles Richard Drew.